

# SUPPLIED & FITTED BY



Cumbria Damp Proofing Ltd, 21 Piel Street, Roa Island, Barrow-In-Furness, Cumbria,  
LA13 0QJ

**Tel: 01229 833920**

**Web: [www.cumbriadampproofing.co.uk](http://www.cumbriadampproofing.co.uk)**

**Email: [cpdltd@hotmail.co.uk](mailto:cpdltd@hotmail.co.uk)**

# Passyfier<sup>®</sup> Dehumidifier Vent **Say goodbye to the mould!**



## **Used & Approved By:**

Local Authorities, Housing Associations,  
Property Management Companies, Damp Proofing Contractors, Condensation  
Specialists and House Building Contractors,  
in planned and response maintenance situations.

**for condensation control**

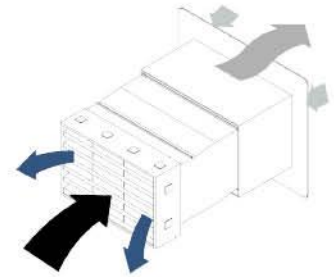
# Passyfier Vent

## the passyfier vent

Ever since the 'greenhouse effect' raised its ugly head, everyone has been aware of the need to conserve energy. They may not be doing it, but they are aware of it! The easiest way to conserve energy is to insulate properties to stop heat escaping. Unfortunately, that also stops moisture vapour escaping - about two gallons per day for the average household - and leads to condensation on cold surfaces.

The dilemma has therefore been whether to insulate and invite condensation and the dreaded black mould, which often goes with it, threatening the health of the very young and elderly, or to carry on losing heat and suffering draughts.

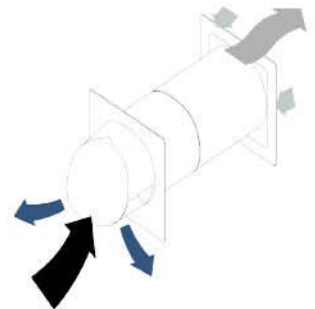
Well, the answer lies in a thinking person's vent. It combines a through-the-wall, 'warm' telescopic sleeve with a slab of mineral wool inside, louvred vent internally and an appropriate external cover. The mineral wool is transparent to the exodus of moisture vapour while simultaneously preventing cold draughts so that people do not block them up with old newspapers or stick posters over them. They can easily be retrofitted in response to condensation call-outs, during refurbishment programmes or installed directly in newbuild. A typical house needs about four/five Passyfier units. Quite often an existing 225 x 150 mm (9" x 6") airbrick is replaced with a Passyfier Sleeved Vent Kit.



**Passyfier Sleeved Vent**

Passyfiere take advantage of the differential partial moisture vapour pressure that is normally higher inside an occupied building than on the outside. This pressure is completely independent of that in the air. For example, a typically cold foggy British winter's day (a real no-no for condensation) may have an outside temperature of 5°C and humidity at 100%, while the inside temperature is at a comfortable 20°C. Keeping the inside relative humidity to 70% generates a difference between inside and outside moisture vapour pressure of 8 millibars, ample to alleviate condensation, all this with little or no heat loss.

For background ventilation of habitable rooms the Building Regulations require that a ventilation opening should have a total area of not less than 8,000mm<sup>2</sup> and that openings should be controllable, secure and located to avoid draughts. The Passyfier Vent provides an opening on a section normal to the airflow direction with an effective area well in excess of the minimum requirement. Air flow through the opening is controlled automatically by the tortuosity of the intervening mineral wool which is transparent to the flow of water vapour, and also avoids undue draughts.

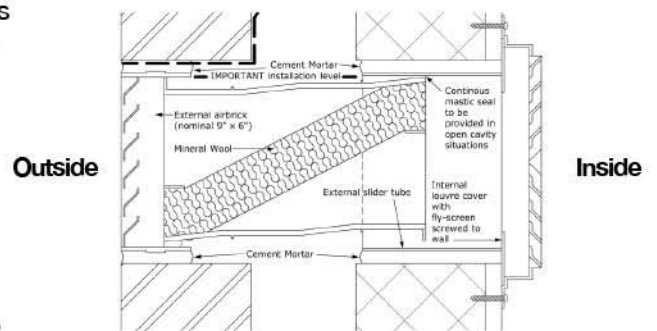


**Passyfier Core Vent**

It is important to realise that the reduction of moisture vapour pressure to avoid condensation within a dwelling does not require a specific ventilation rate. The pressure within a dwelling is always higher than on the outside during the condensation season, and the moisture vapour escapes by diffusion through Passyfier Vents, which have been tested by ADAS for airflow rate versus applied pressure difference.

The diffusion process is slow compared with mechanical ventilation and would not cope with a copious amount of water vapour produced in a short time scale in kitchens and bathrooms without the additional use of mechanical ventilation. Its main use is in habitable rooms where it operates continuously without noise 24 hours a day and can extract up to 2.3 litres of water per day even at low vapour pressures.

If the relative humidity of the room is say 70%, above which condensation will occur at 20°C, each kg of air would hold 0.0104kg of water. At a recommended maximum velocity of 0.9m/sec (recommended by local authorities to avoid a perceived draught) for air flow through the Passyfier, it could transmit 0.023m<sup>3</sup>/day. At a more typical air flow velocity of 0.09m/sec a Passyfier Sleeved Vent Kit would still transmit 2.3 litres of water per day.



**Longitudinal section through assembled Passyfier Sleeved Vent installed in a wall cavity**